Section 210.2
Barrier Islands and Spits

A. Definition

1. Barriers are islands or spits comprised of sand and/or gravel, extending parallel to the coast and separated from the mainland by a coastal pond, tidal water body, or coastal wetland. In addition to a beach, barriers have, in most cases, a frontal foredune zone and often, backbarrier dune fields. The lateral limits of barriers are defined by the area where unconsolidated sand or gravel of the barrier abuts bedrock or glacial sediment. This definition of a barrier system is commonly associated with many geomorphic descriptors. These descriptors include, but are not limited to, barrier islands, bay barriers, and spits. Spits are further described as tombolo, shingle, cuspate, and flying spits. The terms "bar" and "ridge" were once used to describe a barrier system, but have since been replaced with the term "barrier". Many of the state's barriers have been mapped and assigned by the Coastal Resources Management Council to three categories, as listed in Table 4. The barriers or portions thereof designated by the federal government as undeveloped pursuant to their criteria, under the Coastal Barrier Resources Act of 1982 (Public Law 97- 348), are noted in Table 4. In these federally designated areas, flood insurance for most forms of construction is not available.

2. Undeveloped Barriers are essentially free of commercial/industrial buildings, (excluding public utility lines) houses, surfaced roads, and structural shoreline protection facilities.

3. Moderately Developed Barriers are those that are essentially free of houses, commercial/ industrial buildings and/or facilities (excluding utility lines) that contain surfaced roads, recreational structures, and/or structural shoreline protection facilities.

4. Developed barriers contain houses and/or commercial/industrial structures; they may also contain surfaced roads and structural shoreline protection facilities. Maps of designated barriers are available for inspection at the offices of the Coastal Resources Management Council.

B. Findings

1. Rhode Island's South Shore coastal ponds and a frequently low-lying mainland are protected from the forces of the open ocean by a chain of low, narrow barriers. Their importance as buffers against storms, the continuing pressures to build upon them and a long history of disasters during hurricanes have made the regulation of activities on barrier a primary concern of the Coastal Resources Management Council. Several barriers that had all structures destroyed in 1938 and 1954 are again developed.

2. The flexibility of barriers permits them to withstand the severe forces of erosion to which they are exposed. All ocean-fronting barriers are migrating inland in response to those natural erosion forces and to sea-level rise. The migration process takes the form of "rolling over," whereby sand eroded from the ocean beach is transported by storm-surge overwash water and deposited on the barrier and in the coastal lagoon landward of the barrier. The peat sometimes seen along the ocean shore of barriers is evidence of the past existence of a marsh that once flourished behind an older, more seaward barrier. This same flexibility makes barriers particularly ill-suited to human occupation. Not only do buildings interfere with foredune growth but during major hurricanes debris from shattered structures is swept inland, causing additional destruction on the barrier and on adjacent low-lying mainland areas, increasing property damage, and complicating cleanup efforts. Sixty-five percent of Rhode Island's 27.3 miles of ocean-fronting barriers are undeveloped. The recreational opportunities and uniquely beautiful open space they provide are of growing importance in an increasingly developed region.

3. The damage that barrier islands and spits can sustain in major storm events is significant and as such they are considered high hazard areas. During actual storm events, high hazard areas can create dangerous situations even for emergency response personnel and as such all personnel, including emergency response personnel, should be kept out of these areas during major storm events.

4. Within Narragansett Bay there are several small barriers that are also highly susceptible to damage during major storms. With few exceptions, these barriers have not been developed and provide locally important natural areas of great beauty and often considerable recreational value.

5. In some cases barrier islands and spits do not have dunes associated with them. For the purposes of measuring setbacks, the feature shall be the coastal beach, dike, or revetment, whichever results in a greater setback.

6. The Council accepts climate change models that indicate that sea level rise rates will accelerate and it is likely that the frequency of intense storms will increase as global temperatures rise (IPCC 2007). The combination of more severe storms and higher sea levels will impact the barriers. Storm surge overwash is the mechanism that causes barriers to migrate landward and also increase in elevation (Otvos and Carter 2007; Riggs and Ames 2007). This increased elevation will become increasingly important as sea level rises. Studies of the underlying geology, sediment supply and coastal processes to barrier systems in the Outer Banks and the Gulf of Mexico point to a threshold, that once past, leads to barrier disintegration (Culver et. al. 2007; Sallenger et. al. 2007). Shoreline protection structures are particularly unsuitable for construction on the barriers because these structures interfere with the overwash processes that supply sediment to the back barrier, eventually leading to a situation where the barrier does not build in elevation and is much more likely to breach or drown in place.

C. Policies

1. On barriers classified as undeveloped in Table 4, the Council's goal is to preserve, protect, and where possible, restore these features as conservation areas and as buffers that protect salt ponds and the mainland from storms and hurricanes.

2. On barriers classified as developed in Table 4, the Council's goal is to ensure that the risks of storm damage and erosion for the people inhabiting these features are minimized, that activities that may reduce the effectiveness of the barrier as a storm buffer are avoided, and that associated wetlands and ponds are protected.

3. On Barriers classified as Moderately developed in Table 4, the following policies shall apply:

a) New development is prohibited on Moderately Developed Barriers except where the primary purpose of the project is restoration, protection or improvement of the feature as a natural habitat for plants and wildlife or as allowed under paragraph (c) of this section;

b) Existing roads, bridges, utilities and shoreline protection facilities may be maintained only, in accordance with the requirements of Section 300.14;

c) Existing recreational structures may be altered, rehabilitated, expanded or developed (as defined in the glossary of the (RICRMP) according to the following standards:

i) Any expansion of or development activities associated with existing recreational structures shall not occur within or extend into any flood zone designated as V on the most current Federal Insurance Rate Maps, or as established by the Federal Emergency Management Agency;

ii) All activity shall be confined to the existing footprint of disturbance; for the purposes of this section, the footprint of disturbance shall be defined as that area encompassed by the perimeter of the structural foundation and/or areas determined by the CRMC to be substantially altered due to associated structures, excluding dunes, wetlands and areas encompassed within pertinent setback and buffer zone requirements of this program;

iii) Any proposed expansion of existing recreational structures shall be limited to an area equal to 25% of the square footage of the ground floor area encompassed by the structural foundation of the existing building as of June 23, 1983; associated structures shall not be used in calculating existing area;

iv) The activity shall meet or exceed all relevant standards for the appropriate flood zone designation;

v) All activities shall be subject to relevant setback and buffer zone requirements of this program, including accessory structures such as decks, porches, walls, boardwalks, swimming pools, roads, driveways, parking lots and other structures integral to or ancillary to the existing recreational structure.

4. Alterations to undeveloped barriers are prohibited except where the primary purpose of the project is protection, maintenance, restoration or improvement of the feature as a natural habitat for native plants and wildlife. In no case shall structural shoreline protection facilities be used to preserve or enhance these areas as a natural habitat or to protect the shoreline feature.

5. The Council recognizes the highly dynamic nature of barriers and that storms may cause sudden and significant changes to the geomorphic form of these coastal features. Accordingly, large scale public infrastructure improvements and dense development is inappropriate. Therefore, the construction or expansion of new infrastructure or utilities shall be prohibited on all barriers including water, gas and sewer lines. It is not the intention of these policies to apply to individual, on-site water supply systems or individual sewage disposal systems, or gas lines. The use of plastic snow-fencing on all barriers is prohibited.

6. It is the Council's policy to assure that all construction permitted on developed barriers is undertaken to provide for the greatest physical security of the inhabitants of the barrier and adjoining mainland and to maintain, to as great an extent as possible, the qualities of the adjacent coastal pond and wetlands. (See detailed regulations for construction on dunes and beaches in Section 210.1, flood hazard areas in Section 300.3, and other applicable policies and standards in the Coastal Resources Management Program and special area management plans). The construction of new buildings is prohibited on developed barriers on which only roads, utility lines, and other forms of public infrastructure were present as of 1985.

7. With the exception of boardwalks and snow fencing utilized to trap sand, all residential and non-water-dependent recreational, commercial, and industrial structures on undeveloped barriers physically destroyed 50 percent or more by storm-induced flooding, wave or wind damage may not be reconstructed regardless of the insurance coverage carried.

8. Persons utilizing undeveloped beaches are required to observe the following rules:

(a) Destruction or removal of signs, snow fencing, or other sand-stabilizing devices is prohibited; camping is prohibited unless in vehicles equipped with a self-contained toilet.

(b) Vehicles are permitted only on marked roads or trails and on the beach. Vehicles that drive on the beach and designated unstabilized trails on undeveloped barriers shall abide by the policies found in Section 210.1.

(c) Persons shall be at all times subject to applicable town ordinances and regulations restricting the use of private, state, or federal properties.

9. Existing recreational structures, such as beach pavilions, located on undeveloped and moderately-developed barriers that enhance the public's access to the water and generate tourism revenue for the State of Rhode Island may be permitted to be re-established in the event that they are physically destroyed 50% or more as a result of storm induced flooding, wave, or wind damage, provided that: (a) applicable policies and standards of the RICRMP are met; and, (b) public access to the shore is enhanced. Where possible, the reconstruction of these structures shall be behind the foredune zone as defined in Section 210.1. Any reconstruction of these facilities shall be limited to the square footage of the ground floor area encompassed by the structural foundation of the existing (associated structures shall not be used to calculate this area).

D. Prohibitions

1. The use of plastic snow-fencing is prohibited on all barriers due to the hazards presented to fish, marine mammals, and other wildlife in the aftermath of a storm event.

2. Vehicle access across a back barrier flat to access the Salt Ponds is prohibited. Access to the ponds shall be on foot only.

3. Vehicles are prohibited in vegetated areas anywhere on the barriers.

4. Alterations to undeveloped barriers are prohibited except where the primary purpose of the project is protection, maintenance, restoration or improvement of the feature as a natural habitat for native plants and wildlife. In no case shall structural shoreline protection facilities be used to preserve or enhance these areas as a natural habitat or to protect the shoreline feature.

5. The construction or expansion of new infrastructure or utilities shall be prohibited on all barriers including water, gas and sewer lines. It is not the intention of these policies to apply to individual, on-site water supply systems or individual sewage disposal systems, or gas lines.

6. New development is prohibited on moderately developed barriers except where the primary purpose of the project is restoration, protection, or improvement of the feature as a natural habitat for plants and wildlife or as allowed under Section 210.3.C.3 herein. In no case shall structural shoreline protection facilities be used to preserve or enhance these areas as a natural habitat or to protect the shoreline feature.

7. The construction of new buildings is prohibited on developed barriers on which only roads, utility lines, and other forms of public infrastructure were present as of 1985.

8. All residential construction shall be setback a minimum of 50 feet. Residential construction is prohibited in the setback zone. A special exception shall be required for relief from the 50 foot setback requirement on barriers unless the activity proposed is a beach facility or walkover structure in which case a variance from the setback provisions shall be required. A variance shall be required for relief from the setback requirement on barriers for the area that lies between the 50 foot minimum setback and any greater setback based on the annual erosion rate. No new Individual Sewage Disposal Systems shall be constructed within the 50 foot setback area (see Section 300.6.A.2 for definition of new ISDS). Walkover structures may be permitted over the dunes in order to gain access to the beach.

Table 4. Undeveloped, Moderately Developed, and Developed Barriers

Undeveloped

Sandy Point Island, Westerly[1]
Napatree Beach, Westerly[1] (west of Watch Hill Beach Club)
Maschaug Beach, Westerly[1]
Quonochontaug Beach, Westerly/Charlestown[1] (west of Breachway)[1]
East Pond Beach, Charlestown
East Beach (Ninigret conservation area to Charlestown Breachway)[1]
Green Hill Beach, South Kingstown[1] (central portion)
Moonstone Beach, South Kingstown
Browning Beach, South Kingstown[1]
Long Pond Beach, Little Compton[1]
Round Pond Beach, Little Compton[1]
Briggs Beach, Little Compton[1]
Ship Pond Cove, Little Compton
Round Meadow Pond, Little Compton
Quicksand Pond Beach, Little Compton[1]
High Hill Marsh Barrier, Little Compton[1] (eastern portion)
Sandy Point/West Beach, New Shoreham[1]
Casey Point, North Kingstown[1]
Greene Point, North Kingstown[1]

Bissel Cove Barrier, North Kingstown
Tibbit's Creek, North Kingstown
Baker's Creek, Warwick
Buttonwood Cove, Warwick
Gaspee Point, Warwick
Conimicut Point, Warwick
Nayatt Point Beach, Barrington
Mussachuk Creek, Barrington
Rumstick Point, Barrington
Hog Island, Portsmouth[1] (2 separate areas)
Musselbed shoals, Portsmouth

Table 4. (Con't)

Nag Pond/Jenny Pond, Portsmouth[1]
Gull Point, Portsmouth
Sheep Pen Cove, Portsmouth
McCurry Point, Portsmouth
Sapowet Point, Tiverton
Fox Hill Pond, Jamestown

Moderately Developed

Napatree Beach, Westerly (easterly portion)
Michel Pond Beach, Charlestown
Garden Pond Beach, Charlestown
Charlestown Beach, Charlestown (east of breachway to developed portion)
Narragansett Beach, Narragansett
Bonnet Shores Beach, Narragansett
Mackerel Cove Beach, Jamestown
Hazards Beach, Newport
Bailey's Beach, Newport
First (Easton's) Beach, Newport (western portion)
Crescent Beach, New Shoreham[1]
Second Beach, Middletown
Third Beach, Middletown
Fogland Point, Tiverton[1]
Tunipus Pond Beach, Little Compton
Watch House Pond Beach, Little Compton[1]
Sakonnet Harbor Beach, Little Compton[1] (eastern portion)

Developed

Atlantic Beach, Westerly
Quonochontaug Beach, Charlestown (east of breachway)
East Beach, Charlestown (west of Ninigret conservation area)
Charlestown Beach, Charlestown
Green Hill Beach, South Kingstown (westerly and easterly portions only)
East Matunuck/Jerusalem Beach, South Kingstown and Narragansett
Roger Wheeler Beach (Sand Hill Cove), Narragansett
Bonnet Shores Beach, Narragansett (easterly portion)
First (Easton's) Beach, Middletown (easterly portion)
Crescent Beach, New Shoreham (southerly portion)
Coast Guard Beach, New Shoreham
High Hill Marsh Barrier, Tiverton (western portion)

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[1] Denotes those barriers or portions thereof where the Coastal Barrier Resources Act of 1982 (CoBRA) prohibits federal subsidies for most new development and federal flood insurance for all new development. For the most up-to-date maps showing CoBRA designations, contact the Division of Planning, Department of Administration.

*** Note**: This list denotes most of the major barriers in Rhode Island. However, there may be some small barrier systems not contained on this list, but are subject to the policies characterized by the barrier's level of development.